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"O fortunatos nimium sua si bona norint
Agricolae." VIRG.

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AGRICULTURE.

TO THE EDITOR OF THE AMERICAN FARMER.

The immense importance of durable timber, for farming as well as naval purposes, gives an interest to every judicious, or even plausible speculation on the subject. The communication from a person of Commodore Porter's intelligence, will of course attract attention: especially when viewed in connexion with his official station, which peculiarly demands the best attainable knowledge of the matter. Believing the opinion he has given, which is, and probably has been for ages, that generally received, to be erroneous; and thinking it possible that I may throw some light on the subject;—I submit to the consideration of your readers the following observations on

THE FELLING OF TREES FOR TIMBER.

In the 22nd number, volume III, of the American Farmer, is a letter from D. Porter, (commodore Porter) on "The best time to fell Timber with a view to its durability"; in answer to one from the Editor, requesting a communication on the subject. The commodore, "availing himself (as he says) of the knowledge and experience of others, in support of his opinion," states this to be, that "the most proper season for felling timber, with a view to its durability, is in the winter, when the sap has ceased to circulate." This corresponds with the opinion I have heard generally expressed, ever since I noticed observations on the subject; and the precise time in the winter is fixed, by tradition, to "the old of the moon in February."

Many years (perhaps half a century) have elapsed, since I have been inclined to doubt whether the animal and vegetable kingdoms were under the government of the moon. The commodore thinks its "influence nearly if not quite as powerful as [that of] the Sun." He asks, "why that body [the moon] whose attractions can raise the tides, and influence all animal creation, should not have the power to put the sap of vegetables into circulation, assisted as it is by capillary attraction?"—As heat is essential to give motion to the sap in plants, and the heat of the sun is adequate to that effect, it is not necessary to seek for any other cause; still less to resort to one merely conjectural. No means yet tried have discovered any heat in the rays of light from the moon.

If any effects on vegetation were ascribable to the moon's attraction, yet in an entire revolution of its different distances are not so considerable, as to produce very different effects. Besides combining its different periods, it is as near the earth in its decrease, as in its increase; and its power of attraction must be the same in both cases. The sowing of seeds, therefore, and their vegetation, and the growth of the plants proceeding from them cannot, (as the commodore seems to suppose) be influenced by the phases or appearances of the moon.—The notion of the moon's "influence on all animal creation," if not a novelty, I believe to be altogether visionary. Anciently, indeed, mad people were supposed to be affected or influenced by the moon; and thence were called lunatics; but that opinion seems now to be exploded. I am indeed satisfied (contrary to the general belief) that *changes in the weather* have no dependence on the moon; but happen indifferently at all periods of its increase and decrease. It has not heat to raise watery vapours from the earth, or to suspend them in the air; and under the same aspect of the moon, the weather is fair at one place and foul in another.

No one can doubt that "dryness is favourable and moisture unfavourable to the durability of timber;"

and in winter the sap of trees is probably inspissated to a considerable degree; but no living tree is then "devoid of sap."—The important question, therefore, in relation to the felling of timber trees, is, I am inclined to think, not simply *when trees have the smallest quantity of sap*; but *at what season the sap they contain will most easily escape, or be expelled*. The facts I am going to state may show this to be in the spring; when the sap is thinnest and flowing in the greatest abundance.

In the year 1800, divested of public employment, and about to commence husbandman, I made a visit to the late Joseph Cooper, of New-Jersey, one of the most intelligent farmers I ever knew, to converse with him on the subjects of his vocation. Among other things, he spoke of timber; and stated the following facts.—His farm lying on the Delaware river, nearly opposite to Philadelphia, was exposed to the ravages of the British army while occupying that city. Pressed for fuel, his fences first fell a prey to their necessities. In the month of May, 1778, they cut down a quantity of his white oak trees: but circumstances requiring their sudden evacuation of the city, his fallen timber was saved. These trees he split into posts and rails. The ensuing winter, *in the old of the moon in February*, he felled an additional quantity of his white oaks, and split them also into posts and rails, to carry on his fencing. It is now said he, two and twenty years since the fences made of the May-felled timber were put up, and they are yet sound; whereas those made of the trees felled in February, were rotting in about twelve years. He then pronounced confidently, *that the best time for felling timber trees, for durability, was when their sap was vigorously flowing*. He said, also, that white oak and hickory trees felled at that season, would not be attacked by the worms, producing what is called "powder post". And added that hoop poles of oak and hickory ought, for this reason to be cut at the same season.

In the same year, accident threw in my way the late Oliver Evans' book on the construction of mills; to which was subjoined a treatise of a Mr. Ellicott, a millwright, on the same subject. Turning over some of the leaves of this treatise, I lighted on the passage in which the author directed *hickory timber, intended for the cogs of wheels, to be cut when the sap was running, that they might not become powder post*.—In the following winter (1801) being in Boston, and conversing with a friend from the country on subjects of husbandry, I repeated Mr. Cooper's observations, as above stated. This friend then mentioned a farmer, the well-pole (or sweep) of whose well, happened to break at a very busy time: that to supply its place, he cut down the first small tree that came to hand; and this was a white birch. The sap then running freely, he stripped off the bark, and put up his pole; and it lasted seventeen years. Had he put it up with the bark on, it would probably have rotted in a year; *the closeness of the birch bark preventing the escape of the sap*. A close coat of paint, laid on unseasoned wood, operates like the close birch bark, by confining the sap and hastening its decay.

More than fifty years ago, seeing a quantity of logs, with the bark on, piled up by a chair maker's shop, I asked him why he did not split them, that they might the sooner get seasoned. He answered, that so long as the bark remained on the logs, the sap remained in them, and they were more easy to be dressed and turned. Unless timber trees be cut when the sap is running, the bark cannot be stripped off; though with considerable labour it may be removed by the axe and drawing knife; but less perfectly.

The late Mr. Bordley (who was vice-president of the Philadelphia Society of Agriculture, from its for-

mation in 1785, until his death) once told me, that when riding in the vicinity of Philadelphia, he met a master ship-builder, who had been viewing some trees for ship timber. Mr. Bordley mentioned to him the greater value of ships built with the timber of trees allowed to remain standing a length of time after their bark had been stripped off. The shipwright said he was fully sensible of it; the ships would last so much longer. Why then, asked Mr. Bordley, do you not adopt that practice? Because, said the shipwright, such timber becomes very hard, and costs much more labour to work it.—I have heard new settlers dispute, which was the best way of clearing woodlands; whether by girdling (chopping the bark all round the trees, to stop the circulation of the sap, when they gradually die) and letting the trees stand; and at once seeding the land for a crop: or by cutting all down at first, and burning. The advocates of the latter mode, said, that by girdling, and letting the trees stand, they became dry, and so hard as greatly to increase the labour of afterwards cutting them down.

"Dr. Plott [who wrote in the seventeenth century] says, it is found by long experience, that the trunks or bodies of trees, when barked in the spring, and left standing naked all the summer, exposed to the sun and wind, are so dried and hardened, that the sappy part in a manner becomes as firm and durable as the heart itself. This is confirmed by M. Buffon, who in 1738, presented to the Royal Academy of Sciences at Paris, a memoir, entitled "An easy method of increasing the solidity, strength and duration of timber;" for which purpose, he observes, "nothing more is necessary than to strip the tree entirely of its bark, during the season of the rising of the sap, and to leave it to dry before it be cut down."

But why should timber trees felled in May, (or when the sap is freely running) as in the case stated by Joseph Cooper; or barked and left standing until dry, according to Buffon; be more durable than timber felled, according to the prevailing and popular notion, in the Old of the Moon in February? For an answer I offer the following conjecture.—The thinner and more fluid any body is, the sooner and more perfectly, I presume, it will evaporate. The sap of trees is doubtless more inspissated, or of thicker consistence in winter than in the spring, when it is apparently thin and watery. In the latter state it will find its way, and escape, through the pores of the wood, with vastly greater ease and expedition than when, as in winter, it is much more inspissated. Molasses condensed by the winter's cold runs very slowly through tubes of a large size. In summer, the same molasses swelling to a larger volume, and becoming very thin, will pass through very small tubes, and, I believe through the pores of some sorts of wood. The same substance (molasses) exposed, in a small quantity, to the hot sun of summer, would soon discharge its more fluid parts, and at length leave as I suppose, a solid substance behind: but if much diluted with water, would not the whole substance be nearly if not quite carried off by evaporation?—The same reasoning may apply to trees left standing, after being divested of their bark in the spring.

It appears by some English books, that their usual time of felling oaks is in the month of April, when the sap is running, and they can strip off the bark for tanning. But the commodore states, "that in all their contracts for timber for naval purposes, the influence of the moon on the sap is more guarded against than any other;" and he adds, what seems very extraordinary, that "more attention is paid to the time of

* See the British Encyclopædia, article Tree; also Rees's Cyclopædia, article Timber.

the moon when timber should be cut, than to the season of the year :” for (as before remarked) seeing the moon is at the same distances from the earth during its decrease as its increase, its power of attraction might be the same in both cases ; and consequently, all the different effects which tradition has ascribed to the waning and the waxing moon must be visionary.

The maturity of timber is quite another thing ; and probably of more importance than the time of felling it. There is a point of ripeness when trees acquire their greatest solidity, strength and durable quality, for timber. The late Dr. James Anderson, † says—“ It is now well known that the best fir timber which comes from Riga, and other places on the Baltic, is the produce of the same tree that is commonly cultivated here [in Scotland] under the name of the Scotch fir ; but having grown more slowly in those countries than the planted trees do here, and having been allowed to attain a much greater age, that wood is beyond comparison closer, and four times at least more durable, in any kind of work, than the young raw deals [boards and planks] which are made of wood the usual growth of this country.”

Dr. Anderson, in early life a practical farmer, a man of letters, and an ingenious and philosophical observer of nature, appears, nevertheless, to be entirely mistaken in his ideas of the cause of the hardness and strength of wood, and in ascribing to the same cause in part, its durability.—Mentioning the rings in trees which mark their growth, he says “ as one of these rings is added to the circumference of the tree each year of its growth, and forms the whole increment of the tree for that year, it follows, that the less that increment is, or in other words, the slower the trees grow, the less will be the breadth [thickness] of these rings, and of course, the closer the grain of the wood, and the harder also it will be.” Just the reverse of this is the fact. Every farmer and carpenter, in the United States, knows that the thicker the annual ring, or, in the common language, the larger the grain, the harder and stronger is the wood. Hence the butt-ends of white oak are preferred for the spokes of wheels, and of hickory for axe-helves. Every wood-chopper also knows how much easier it is to fell and cut up the trees growing with small grains in a close forest, than trees of the same kinds which have grown singly and faster in open grounds. And every man who has used husbandry tools, a fork or rake for instance, whose handles are of ash, knows how much harder, stronger, and heavier because more solid, they are when made of timber with large grains, which had grown fast in good soils, or at such distances from tree to tree as not to rob one another of their food,—than when of small grained, slow growing timber. But the timber of trees, pasture oaks for instance, standing singly and at distances from others, and which are of rapid growth, and consequently with large annual rings, or grains, though twice as tough and strong, is found, I have long understood, less durable than the timber of oaks of slower growth. The reason is obvious. The oaks in forests do not attain the sizes fitting them for ship-timber, until they have reached the age of maturity or ripeness. In this state they may probably continue stationary for some years ; but if left standing many years after they are of full age, the toughness and strength of the wood are greatly impaired. But pasture, or other fast growing oaks, attaining, in much fewer years, sizes suitable for ship-building and other uses, are sometimes cut down before they come of age, before they are mature, or perfected by time ; and hence the earlier decay of such timber. The fact stated by Dr. Anderson, in comparing the “ raw” Scotch and the mature Baltic firs, exemplifies this doctrine. And in correspondence with it, I will mention a maxim which probably had been handed down from generation to generation, and was repeated to me by my father when I was a boy, upwards of sixty years ago, which I perfectly remember, and have repeated to others : “ My father used to say (so the maxim was introduced to me) young wood for fire, old wood for timber.”

In reference to the memoir of M. Buffon, before

mentioned, the authors of the British Encyclopædia, say that “ By many experiments, particularly described in that essay, it appears, that the tree should not be felled till the third year after it has been stripped of the bark ; that it is then perfectly dry, and the sap [sap wood] become almost as strong as the rest of the timber, and stronger than the heart of any other oak tree which has not been so stripped ; and the whole of the timber stronger, heavier, † and harder ; from which he thinks it fair to conclude, that it is also more durable.” And they add, that “ The navy board, in answer to the inquiries of the commissioners of the land revenue, in May, 1789, informed them that they had then standing some trees stripped of their bark two years before, in order to try the experiment of building one half of a sloop of war with that timber, and the other half with timber felled and stripped in the common way.”—“ We are sorry that we are not able to inform our readers of the result of the experiment.”

Commodore Porter and his colleagues of the American Navy-Board, may have it in their power to make, and carry into complete effect the same experiment. So may farmers possessed of timber trees. To render the experiments more fair and conclusive, trees as nearly as possible of the same size, and growing in the same soil, should be selected. Growing in the vicinity of each other, the equality of size will be an indication of an equality of age,—a point, probably, of material importance.

These experiments I hope will be made extensively by farmers, in preparing their timber for fencing, and for carts and other implements much exposed (often unnecessarily) to all changes of the weather. For however plausible theories may appear, careful experiments alone can determine their correctness.—Experiments by farmers may very easily be made, in their fences ; by having some panels (or lengths of rails) of timber prepared in one way & then a like number of timber prepared in the other. At the same time too, they can try an experiment to ascertain whether, in post and rail fence, the rails, with their heart edges downwards, will last longer (as the commodore supposes) than with those edges upwards, in the mode universally practised. He suggests that the concentric rings (the annual growths) in trees split into rails, and these placed in fences with their edges upwards, form so many cups or hollows, into which the rains and dews falling on the rails enter ; and having no other way to escape, soak through the rings to the sap-wood and bark on the under side, and thereby hasten the rotting of the heart wood above.—I much doubt the correctness of this theory. Rails placed with their heart edges upwards, have very steep roofs, by which water speedily runs off. Their heart-wood soon seasons, and its surfaces become close, without visible cracks. But place the broad, bark side upwards, the falling water will rest longer upon it, and enter the sap-wood, often an inch or more in thickness, and as soon as this shall become rotten, it will be a sponge to receive and hold water, to soak into and gradually rot the heart wood below. Such is my view of this subject : but let experiments be made.—For the purposes of the navy, or other ship-building, experiments may also be easily made ; though not so satisfactorily as by constructing a vessel with the two sorts of timber as designed by the English Navy Board. An equal number of pieces of timber felled in the two different ways, may be dressed to the same sizes, and equally exposed to the weather in all its changes ; and to expedite the result, they may be often immersed in water, so as to be almost daily wet and dry.

Hickory (in New England generally called Walnut) grows in many parts of our country. It is a tough and hard wood ; but when exposed to the weather soon decays ; yet may, it seems, be advantageously used in salt waters infested with worms. Eighteen or twenty years ago, passing by a saw mill, placed on tide water, I observed some hickory planks. I asked

† If heavier when of the same bulk with common timber, its fibres must lie closer together, be therefore less pervious to moisture, and consequently more durable.

the sawyer for what use they were intended. He answered, for the sluice-ways, or other water works, of tide mills ; because not liable, like oak, to be eaten by the worms. Passing a few days ago by some tide mills on the same streams, I mentioned the fact just stated to one of the proprietors. They continue to use hickory for the same purpose, because, said he, “ the worms don’t touch it.”—Any person inclined to make trials of this wood for such purposes, may previously ascertain the fact, by sinking two pieces, one of oak and the other of hickory, in waters where worms are known to abound ; and after a few months taking them up again.

TIMOTHY PICKERING

Salem, September 10, 1821.

[From the Saratoga Sentinel.]

ADDRESS,

On the necessity of EDUCATION, and advantages of subsequent study, to Farmers, delivered before the Agricultural Society, of the county of Saratoga, at the annual Cattle Show and Fair, on the 12th October, 1820, by EZEK COWEN, esq.

MR. PRESIDENT, and

Gentlemen of the Society,

I make no doubt of obtaining implicit belief, when I assert the extreme reluctance with which I yielded to the friendly partiality of the Executive Committee, at whose request I am about to address you. Most of my practical knowledge in Agriculture is confined within the essays of very early life, while I pursued the cultivation of a farm under the direction of another. Whatever attention I may have since bestowed upon improved theories, or in directing the operations of others, I pretend to nothing beyond a mere novice in this noble science.—The singleness of attention, I have thought it my duty to bestow on my immediate profession, must be an apology for the lack of more advanced improvement in that of the farmer ; and will excuse my neglect to urge those topics, to which custom would seem to point our attention on occasions like the present.

But however deficient I may be in what constitutes the practical or theoretical agriculturist, I have not been without my share of observation, on the influence he carries into moral and political life. It is with pride and pleasure, I propose dwelling for a moment on his character, in this point of view, and submitting a few considerations, which I conceive friendly to its permanence and improvement.

I forbear repeating the unmeaning language of common parlance, that the mere act of cultivating the soil is a virtue ; and not only so, but of that commanding rank which throws every other virtue into the shade. I agree that this is the rugged foundation, by which the social fabric is ultimately sustained ; that combined with the useful arts to which it gives tone and employment, it furnishes the means of human sustenance. But still, so far from being a virtue in itself, it is the offspring of a necessity that will forever impel the great body of society to those pursuits which furnish the most simple and ready medium of subsistence : That necessity, which taught commerce to Carthage ; and war to the little republics of Athens and Rome. In its simple state then it is to be cherished and improved merely as an instrument of livelihood, furnishing the food which sustains, and the raiment which covers us. But when we depart from this point to consider its moral influence upon our happiness, its tendency to form the virtuous citizen, the republican and patriot, we rise from approbation to enthusiasm ; and invoke for its encouragement and protection the energies of the national arm. We are no longer content to see it progressing by the dim light of that necessity in which it originated, degraded in rank, and languishing under the torpid hand of the Polish slave or the Russian Peasant ; but we call to its aid the lamp of science ; we open to its professor the region of the mind, and hail his advances in the walks of intellectual greatness.

It should not then be our object to form the mere farmer, however exquisite his skill in swelling his

crops, or multiplying his flocks and herds. It is his simultaneous duty to superadd to the cultivation of his farm, that of his mind; and to extend the same care to the mind of his family. For this purpose it should be his object, in the first place, to acquire himself and impart to his offspring at least a common education. This is a good foundation for mental improvement, but nothing more. It should be regarded in every man's hands, merely as the instrument of rearing and establishing that intellectual superstructure, which is to give him character, consequence, capacity and happiness in the various stations he may be called to sustain in society.

There is no greater mistake, than in imagining that because a scholar has mastered his spelling, reading, writing, grammar and arithmetick, he is then entitled to dismiss his books, take up his farming tools, and bend a single eye to his agricultural avocations. Such a course is inexcusable. What would you say of the son, for whom your diligence and affection had obtained a degree at the university who should dismiss all mental discipline on receiving his diploma, and in the bustle of business or pleasure, so far from improving upon the stores of ancient learning which you had unlocked to his view, should even forget the characters in his Greek Alphabet?—Would he not be more richly entitled to the epithet of idler and truant, than the farmer who suffers his crops to be overrun with weeds, or destroyed for lack of fences? Yet his diploma is but the threshold of improvement. His collegiate attainments are but the rudiments of the scholar, the means of forming him to usefulness and eminence. A wide and unbounded field of knowledge lies before him, inviting his culture, of which he as yet possesses no more than the utensils for improvement. It is a reality which cannot be too highly appreciated, that a common education falls but little short of a liberal one in these important particulars, and that, consequently, a neglect to improve it leads to nearly the same sacrifices. All experience proves that literary excellence is, in an eminent degree, attainable by the mere English scholar. History, Geography, moral and indeed most branches of natural Philosophy, Logic, Mathematics, Metaphysics, Belles Letters, &c. and a general knowledge of our constitution and laws, sufficient to form the legislator and statesman, are within the reach of every man of common education. I say within his reach, if he will devote to their attainment that portion of time which almost every one has at command. It is a great error for the farmer to gaze on these matters at an awful distance, as if they belonged in strict monopoly to the professed scholar, the bar, or other walks called learned by way of distinction. I presume those farmers, who are really wealthy, will not pretend to any such excuse, but will submit peaceably to the charge of a too close application to their pecuniary affairs. But the farmer in middling circumstances, will tell us that he wants both leisure and means to improve his mind by much reading and study; that his attention is necessarily confined to his business; that he lacks money to purchase him a library; that he has passed the time of life when he expects filling any station where his learning will come much in play; and as to his children, they must pursue their own inclinations; if they are not naturally students he cannot make them so; that the necessary attention to study, though it improves the man, takes from their labour, and impairs his estate.—I deny all these excuses. They are contrary to the fact.

I agree that absolute poverty has a bare excuse—Nothing more. But I take the farmer in the middle walks of American Republican life, who with his brethren constitute the great body of our population. I will take him with a family, no matter how numerous, if bred as they should be to habits of strict economy and industry.—He has leisure to pass without employment in business, many of his long winter evenings, and much of the day time during the same period. The laws of his country command him positively to quit his labour one seventh part of the year, and devote it to the improvement of his mind and morals; to which Sunday schools have been already added in

many parts of the country, as a useful employment for a portion of that time. The most rigid clergyman of the most rigid sect, will not pronounce it unlawful during that time, for him to unbend from his immediate theological exercises, by the pursuit of such general studies, as must strengthen his mind, and prepare him for the more useful and acceptable discharge of the Christian duties. He has the means of purchasing a small collection of books for purposes of the most immediate utility, to serve as a manual for himself and family and to fill up those little interstices of leisure continually occurring, which the poet calls "Catching the transient hour, and improving each moment as it flies." While his more enlarged researches are cheaply and liberally supplied by the well selected public library of the neighbourhood.

With what wonderful improvement this species of literary industry is attended; there are probably many among us that can bear testimony. But it has some few striking illustrations such as have been furnished me in the character of two much respected friends, one of whom is now no more.

The first was a farmer in tolerable circumstances, whose diligent personal labour was necessary in providing for the support of a growing family. He cultivated his farm during the proper season; and in winter employed himself at a neighbouring lime kiln, so that every part of the year witnessed his productive industry.—By his education he might have been qualified to teach a common school, and I don't know that he ever aspired to travel beyond the sphere of English literature.—Visit him in his field, at his barn, his lime kiln, where he was uniformly employed at the proper hours, and you would rarely find him alone. His Milton, his Johnson, his Hume, his Shakespeare, or some other equally well chosen British Classic, was uniformly in his company, which he had perused and re-perused, till his acquaintance with these great men had become critically complete. From an industrious course of reading and observation, under all his disadvantages, his mind had arisen to that of the scholar, and I venture to aver, there are few, very few men of finished classical education who can reach his style of composition, either in poetry or prose, or his enlarged views, whether philosophical, moral or political. He continues I understand to prosper in the improvement of his property, notwithstanding the adverse circumstance of his title's failing to the little farm upon which he at first located himself.

I shall not insist on my second instance as an example for imitation, in all his points of character. I do believe he failed in some of those maxims of human prudence, which inculcate a diligent provision for our household, but I deny that it was owing to his literary turn.

He commenced life without property and an increasing family depending on his hands for support with a middling English education, but literally too poor to purchase the candles for his study. Under this formidable pressure of pecuniary embarrassment and distress, he acquired a handsome standing in the literary world, from borrowed books; perused by torch light, in a little hut, more miserable than that of Socrates, as it is handed down to us in the comedy of *The Clouds*. His general reading was extensive and well chosen. His taste was correct, and his style of writing respectable. He acquired a tolerable knowledge of the Latin and French; his knowledge of Mineralogy and Botany was by no means contemptible; and the History, Geography and Geology of his country have been improved by his efforts. His pecuniary circumstances were in a degree bettered by success in turning his literary acquisition to account; but owing to a native heedlessness as to the means of subsistence, he moved through life as if under "the influence of a malignant star, waging an eternal war with poverty."

If the farmer is advanced in life, he most probably has children who will mould their future lives by his example; and he already fills a station which gives ample play for all the knowledge he can place in store. He is the member of a great and rising Re-

public, whose constitution and general policy invite his scrutiny;—In the selection of whose functionaries he is annually called to assist;—upon whose conduct he sits in judgment. In the exercise of so important a duty, what speed can he make, without the aid of that cool monitor, a well instructed understanding? The storms of faction are let loose to overwhelm him. Envy, passion, interest and malice swell their mighty rage, and put in requisition every engine to dishonour, to inflame, to corrupt and to persecute. It is amidst this awful conflict that reason is to hold her throne, if she holds it at all, or (which is the most easy and therefore the most frequent course) she must abdicate her seat, and become the humble tho' indignant disciple of some pitiful, despicable demagogue.

To form the character of the mere elector, he should study his national and state constitution with its ablest commentators. He should examine the history of nations, their rise, their progress, their decay, and final extinction. He should understand the resources, the geography, and the religious and moral habits of his own country. He should investigate the spirit of her laws, and search out her commercial relations.—Until he does so, he cannot appreciate the conduct of his rulers. Difficulties, disasters, and inevitable misfortunes are confounded with faults and crimes; or even the most upright, beneficial and prosperous efforts are metamorphosed into state villainy, by those who are interested to hoodwink the master in his search to determine the merit of the servant. His ignorance and credulity are thus made the mere sport of the artful and designing knave, who he gratifies perhaps at the expense of an able faithful delegate.

Again—By a judicious course of reading and reflection he disperses the darkness and terror which will ever attend superstition and ignorance. He forms a more correct estimate of the duties, flowing from the relation to his family, to society and to his God!—Becomes better contented with the world, smooths the asperities and removes the peevishness and puerilities of age. He of all others is best qualified to attain and enjoy that enviable state of human happiness so elegantly described by the Poet of the seasons;

"Rural Quiet, friendship, books,
"Ease, and alternate labour, useful life,
"Progressive virtue, and approving heaven."

I cannot better conclude this head than by adopting the opinion of an admired writer in our own country on the happy effects of perusing the Spectator of Addison and Steele.

"A style so sweet and simple and yet so ornamented! A temper so benevolent, so cheerful, so exhilarating! A body of knowledge and of original thought so immense, so various, so strikingly just, so universally useful! What person of any age, sex, temper, calling or pursuit, can possibly converse with the Spectator without being conscious of immediate improvement.

To the spleen he is as perpetual and never failing an antidote as he is to ignorance and immorality. Not matter for the disposition of mind in which you take him up: you catch as you go along the happy tone of spirits, which prevails throughout the work; you smile at the wit, laugh at the drollery, feel your mind enlightened, your heart opened, softened and refined; when you lay him down, you are sure to be in a better humour both with yourself and every body else. I have never mentioned the subject to a reader of the Spectator, who did not readily admit this to be the invariable process; and in such a world of misfortunes, of cares and sorrows and guilt as this is, what a prize would this collection be, if it were rightly estimated.

Were I the sovereign of a nation which spoke the English language, and wished my subjects cheerful, virtuous and enlightened, I would furnish every poor person in my dominions (and see that the rich furnished themselves) with a copy of the Spectator: and ordain that the parents or children should read four or five numbers aloud every night in the year. For

one of the peculiar perfections of the work is, that while it contains such a mass of ancient and modern learning, so much of profound wisdom, and of beautiful composition, yet there is scarcely a number throughout the eight volumes, which is not level to the meanest capacity. Another perfection is, that the Spectator will never become tiresome to any one whose taste and whose heart remain uncorrupted."

Gentlemen, another agricultural season is past. I congratulate you on the sufficiency, though not on the profusion of its productions. "The giver of every good and perfect gift," has never been unmindful either of our temporal or spiritual happiness. The health of your bodies has undoubtedly been preserved and improved by the cheerful exercises of the field. The vegetable world is about going to sleep for the winter, but the mind, the immortal soul will never sleep. Schools will probably be opened in your respective neighbourhoods, to cheapen and improve which, the kind hand of your government is also extended, as well as to patronize your farming efforts. Your children are to form the future men of this country. Attend diligently to the cultivation of their minds. It is this which fits them for their station in life, whatever it may be. Remember with Doctor Watts, "that they are to be measured by their soul," and that "the mind is the standard of the man."

GRASSES and GRASS LANDS.—First Report thereon, made by a Committee of the Agricultural Society of Pendleton, South Carolina.

AUGUST, 1818.

There is, perhaps, no branch of husbandry, of much more importance to the farmer, than that on which it has become our duty to report, and we believe none is so much neglected in the southern states; and if any require proof of this, we would invite their attention to our farm stock, and should they demand other evidence, we would remind them of the rise which beef and pork has taken within a few years.

Four years back, the highest price that could be obtained for pork was five dollars, and the beef that the country afforded was readily obtained at three cents, and three and a half per pound. From that time these articles have been gradually rising, and at this time, you pay six and a half cents for beef, and for two winters past the current price of pork has been from seven to eight cents.

This wretched state of things, owes its existence to two causes. The rapid decline of grasses in the forest, and inadequate crops arising from exhausted lands badly cultivated. How to restore fertility to our soil, and even to make it richer than ever it was by nature, we have been amply instructed by the able report presented by the committee on manures, at our last meeting and it now remains for us to show, (if we can) how the want of grasses for our stock may be supplied. In this attempt we will simply lay before you such facts as we have been enabled to collect on the subject.

Meadows, we are strongly inclined to think, are well calculated to ameliorate our condition; and almost every farmer who has a stream three feet wide, running through his farm, is in possession of more or less meadow land, which, while suffered to remain in a state of nature, answers no other purpose than to entrap our poor cattle in the spring of the year.

Experience has taught all who have tried it, that to have a good meadow, it is only necessary to grab out the under growth, and cut down

and remove as many of the larger trees as will be necessary to admit the action of the sun. In some instances it is necessary to cut a small ditch round the edge of the meadow, so as to cut off springs; but in most cases, they become sufficiently dry after a few months exposure to the sun.

Ten or twelve years ago, a gentleman residing on the waters of Twenty-three Mile Creek, cleared a meadow of four acres at the head of a small branch, a great part of which was so high as to produce only what we call the broom or sedge grass; and on the low and wet parts, grew a coarse grass, very much resembling what we call the fox tail; but after this meadow had been mowed two or three years, these grasses became much finer, and yielded better and more abundant hay. For two or three years, the product of this meadow was not considerable, as it had been thickly covered with young maple, the sprouts of which were very troublesome for that time; but as soon as they were entirely subdued, so as to give the grass full possession of the soil, the quantity of hay was so much increased as to become an object of great importance, inasmuch that the annual product for several years past, has been estimated at one hundred dollars, and the last summer seventeen large wagon loads of good hay was taken from it.

About ten years since, a gentleman residing on the Eighteen Mile Creek, cleared about one acre of meadow, which is in the winter and spring occasionally overflowed, and six years ago he cleared about two acres more, one of which he sowed with timothy, in October, putting one quart of seed on the acre. This meadow has been found to improve annually. The present year the acre of timothy produced four large wagon loads of hay, which made a stack eighteen feet in diameter at the base, and for six feet up this size was preserved, from thence it was gradually drawn in and terminated at a point fifteen feet from the ground. From the dimensions and solidity of this stack, we might safely estimate the waggon loads to average from eight to ten hundred weight. This meadow was viewed by one of the committee some days before it was mowed, and it was then so dry, that through the greater part of it the ground was very much cracked. Notwithstanding it must, from this appearance, have suffered much for the want of moisture, the timothy was generally four feet high, and close around the roots of large standing sweet gums which had not been deadened, it was as tall and looked as well as in any other part.

From the two acres of natural meadow, was taken eleven wagon loads of hay, which, made two stacks, not much smaller than the one just described, and eighteen feet high; from the state that this meadow was in, all the spring and summer, we must infer that if it had been properly watered the quantity of hay must have been greatly augmented; and in support of this inference, we will copy an article from an English author on Agriculture. Speaking of watering meadows, he says: "This is a part of husbandry strangely neglected in England, but of undoubted importance. I experienced it in my Suffolk farm, and yet stronger in my present Hertfordshire one, where any person that

may call on me may see the vast difference between a meadow in the parts watered and unwatered. I had this year, (1769) as much hay from off one watered acre, as all the four unwatered ones in the same field."

The meadow on the Eighteen Mile Creek which produced the fifteen wagon loads of hay from three acres, is such land as our water courses abound with; it is a stiff soil, with very fine texture, one degree lighter in its nature than the common pipe clay. In the summer when the earth is neither parched with drought nor saturated with water, this soil has been profitably cultivated in Indian corn and oats; but in either of those seasons it is very difficult to tend and produces but little. The foundation of this soil is a very stiff blue clay. The growth is maple, ash, sweet gum, white oak, some poplar and iron wood, and here and there on the high parts, hickory and dogwood. This land properly drained, and thrown up into high ridges in the winter, with a two or four horse plough, and an application of such manures as are adapted to cold stiff soils, might no doubt be profitably cultivated in corn and other grains: but it appears by nature to have been designed for meadows, and should never be appropriated to other use but where there is a surplus.

Among the grasses which grow spontaneously in these meadows, we notice a large coarse grass very well known by the name of the red grass—this is generally found in smaller quantities than the other kinds, which may be owing to the others being earlier and thereby getting possession of the soil. This grass delights in water; but in very springy situations, that are always cold and soft it will not grow. Where it can be watered at pleasure and kept wet by any other means than the constant oozing of cold springs, it yields much more abundantly than any other grass we are acquainted with; and when it has been frequently watered, the growth is so thick and tall as to require two acres to cure what grew on one; it makes a coarse but very sweet hay, of which cattle, sheep, and horses are very fond. It is the opinion of the most experienced and skilful farmers that this grass is decidedly the most valuable we have either for mowing or grazing.

We might have noticed other meadows, as there are several others of value in our district, but we are not so well acquainted with their character. The two brought to your view afford the most abundant and incontestible evidence, that with a little labour and pains, we may have excellent meadows, not only of natural grasses but of timothy. In short, if these examples are not sufficient to excite others to go and do likewise, we despair of offering anything that will have that effect. With one more remark we will leave this subject. A meadow once established, is done for life or perhaps for a century.

Of exotics we can give but few examples, as but few experiments have been made with them in our district.

The grass called dog foot or orchard grass, (*dactylis glomerata*), has been found valuable for grazing, which will appear by the following experiment. One of your committee some years back sowed a small lot with this grass, which came up too thin, the seed being bad;

but notwithstanding this, he pastured it at all seasons of the year with cattle, horses, and sheep for ten or twelve years; he then cultivated the lot in corn, and some bunches of this grass were to be seen in it for some years after it had been thus cultivated. We may therefore presume that this grass, sown a proper thickness, in good strong ground, would be very durable and valuable for grazing.

Lucerne has been found both in England and this country very valuable for soiling. A gentleman of great respectability in our state, sowed a quarter of an acre, on a stiff red clay hill, with it (this was well manured) and in common years he has cut it seven times; but the last summer being unusually seasonable, it was cut nine times and kept six horses.

This is considered in England a valuable grass for soiling, and although said to be an expensive one, is highly recommended by Mr. Young; by a fair calculation he makes it appear that the expense of planting and managing one acre is 4*l.* 9*s.* 2*d.*; in this he includes manuring, ploughing, hoeing, mowing, and hauling home, and in this he has rent, tythes, and rates 1*l.* 10*s.* (which will not be found in the American account.) He then says, keeping five horses from the beginning of May to the end of October, at 2*s.* 6*d.* per head, per week, is 14*l.* 7*s.* 6*d.* which leaves a clear profit of 9*l.* 14*s.* 6*d.* It thus appears that with all the expense attending its culture, it is found there to be a very profitable mode of feeding horses; but here it appears to be far more so, because *there* one acre kept but five horses during the season, *here* one quarter of an acre kept six horses.

The proper time of sowing is the latter end of March or beginning of April, because like the turnip it is subject to the ravages of the fly, and by early sowing it will attain a sufficient size so as not to be affected by the fly; if broadcast, twenty pounds of seed to the acre; if drilled in rows two feet apart, six pounds will be enough.

The value of lucerne crops are said to be much increased by sowing oats with them, in the proportion of six pecks of oats upon very rich land; two bushels on indifferent soils, and three for poor soils. As soon as the oats are sown and harrowed, the lucerne should be sown and a light harrow passed over it, whether in drill or broadcast.

The land must be rich and kept clear of weeds to have a good crop; it flourishes, by the English account, best on deep rich friable loams though it will thrive in any good dry soil, and in the coldest climate.

Mr. Young says, although this is considered an expensive plant to cultivate, if the value of the food be computed according to the maintenance of cattle per week, it will pay nearly cent per cent.

The *Feather grass* called by some white top, (and which is said to be a dutch grass known among them by the name of *Weissen-heller*;) has been tried in some parts of this district and in Georgia, and is found to answer well for winter and spring pasture for sheep and calves. This grass has been described by Dr. Anderson in his essays on agriculture as the *Cocks-tail* or *Feather grass*. (*Stipapennata*.) On rich

loams, and in the meadows near the mountains, this grass has produced fine crops of hay; but there the red clover and timothy being thought superior in similar situations, is taking the place of it, though they still think it a valuable grass for their lands of a second quality, which are chiefly pastured. With us it has been found to succeed best as a winter grass. It preserves its verdure in the severest weather, and grows vigorously during every relaxation of frost and very early in spring. If suffered to seed, it appears to die in June after the seed is perfected, but it puts out again in September, affording in its succulent juicy leaf, resembling the leaves of barley more than any other, a rich repast during the fall, winter, and spring months. As we recommend this grass chiefly for pasture, and it grows better than any other we know of except ripple grass or narrow leaved plantain (*plantago tenuifolia*.) on poor stiff soils, it may be worthy of remark that our common crab grass begins to grow, in our climate, just as the feather grass declines, and as soon as the crab-grass dies, the feather grass again succeeds it, and continues to afford good pasturage till the crab grass appears the next year. Thus these two grasses will afford the desirable advantage of good pasturage all the year.

ON THE HESSIAN FLY,

(*CECIDOMYIA DESTRUCTOR*),

AND PROPER COURSE OF CROPS.

Read before the Agricultural Society of Bucks County.

SHARON, 1st June, 1821.

Sir—Ia tracing the history of the Hessian fly (*Cecidomyia destructor*) for the past year, 1820, as laid down in my communication of the first of February last, I omitted that part which relates to its evolution from the straw about the barn, and therefore the present is principally intended to supply that defect, and to offer some observations growing out of it. The insect first appeared in the winged state in the house on the twentieth of February (the weather being then moderately warm,) and continued to be seen occasionally, or whenever the weather was in a suitable state, until the opening of spring; indeed in a room where fire was kept, I saw it on some quite cold days; but the number was so inconsiderable, that no injury need be apprehended. I must then call the attention of the society to the stubble fields as heretofore recommended; for I am now satisfied, that the insect can be so crippled, as to be rendered harmless to our crops; but to insure success, all must adopt the same plan: this indeed is a great difficulty, because the case has been given up as irremediable. It should not, however, discourage us, as difficulties ought always to stimulate to greater action, and the importance of the subject before us, demands our every exertion; besides, I am persuaded that our purpose can be easily accomplished. If such a rotation of crops can be devised, as will admit the ploughing in the stubble at the proper season, and which will yield as great profits as our present

course, independent of the destruction of the fly, surely every one will be willing to try the experiment; inasmuch as it will be risking nothing for a prospect of great gain. My plan is already submitted generally, but it may be well to state it more particularly, and confine it to that part, in which alone my confidence is now placed; that is, plough in the stubble immediately, or soon after harvest; then harrow the ground in the same direction that it was ploughed; which will destroy a large proportion (in the pupa state) and will cause plants to spring up, sufficient to receive the deposit of any flies that may escape the ploughing, or evolved from the straw that was stacked or housed; suffer those plants to grow till near the time of putting in the wheat crop; then plough again, and the work of destruction will be finished; or if the ground is not intended for grass or winter grain, the last ploughing may be done at any time during the fall; for although some of the pupa might change to the fly state, yet, it being the habit of the insect to deposit its progeny on the nearest plants that are suitable, and as there would be ample provision at hand, there would be no necessity for it to remove from the stubble fields. Rye and barley stubbles must also be attended to, and plants growing about stackyards and barracks should not be neglected. The course of crops that I would propose is, first, wheat; second, corn; third, oats and clover. The sod to be broken up for wheat, the first ploughing being shallow, and done in hot weather, a decomposition of the vegetable matter in the soil will immediately commence; and when sufficiently advanced, give a second and deep ploughing, and harrow as occasion may require; just before putting in the crop, give a third and very shallow ploughing; begin sowing the last week in September, so as to finish the first in October, or if it were possible, I would sow the whole on the first day of October; because, prior to that period the insect appears in such quantities, as to do considerable injury during the fall, and is stationed for a second attack in the spring; whereas, afterwards, the number is not sufficient to make any serious impression; but it is not safe to postpone the sowing much beyond that time, as the young plants would be more likely to perish by the winter, than the fly; and the wheat that is in a backward state in the spring, is more subject to attack and less able to resist it. The farmers in this neighbourhood generally agree, that the time here mentioned is the proper time of sowing, and the growing crop fully evinces its truth. The lot I had sowed on the thirtieth of August, is entirely cut off; and some sown by my neighbours about the 20th of September, will scarcely yield a crop worth cutting; such as was sown the last of September and first of October, promises well, and that sown later is much injured, except where it was highly manured. The time of sowing in other places, should be regulated by climate or actual observation. Thus managed, I believe a good crop may be calculated on, even without manure; but it is said by some to favour the increase of garlic; it might be so in the first instance; but taking the whole course into view, I do not think it would have that tendency, and in order

to remove the objection entirely, it would only be necessary to commence the system, by breaking up the ground at a time when the garlic was in a growing state, or by pasturing the garlic in the early part of the season with sheep. I would apply the manure to the corn crop, either by spreading it upon the wheat stubble, and immediately ploughing it under, or putting it on in the spring. The oats crop should be put in as early in the season as practicable, and directly after harrowing sow clover: it has been found, when sown early, to take quite as well as with wheat: let the clover remain one year, then turn it in for a wheat crop, and continue this course on the same ground, until it shall be completely cleaned of all trash; then sow some more permanent kind of grass, and suffer it to rest, in order to plough up that part of the farm which had been under grass. Thus dividing the farm between grass and tillage land, and changing as occasion may require; but when the farm becomes cleared of all noxious weeds and other pests (and perhaps it is the best way to clear it,) that part appropriated to grass ought not to be broken up oftener than may be found necessary; as it will take several years to get well set with natural grass; which is much to be preferred to the artificial grasses, especially for pasturage; indeed with top-dressing occasionally, and sometimes scarifying, the ground need scarcely ever be ploughed. That part allotted to grains and clover, might be worked in the manner above-mentioned, any length of time, with improvement to the soil; and under that management, not only the ravages of the Hessian fly will be prevented, but the worm that takes its lodgement in the cavity of the stalk (as stated in my address to the society,) will share the same fate; for the egg that produces it, is deposited about the same time as that of the fly; and further, our grain crops will probably be exempt from the attacks of most other insects; at any rate I am persuaded, that our corn would not be injured by the cut worm, as its parent deposits its progeny among grass; and the natural green or spear grass, which I propose to be chiefly attended to, would not be much injured; besides, the spider which I presume is the cause of the salivary disease of animals would not be likely to lodge in that species of grass, or rather it would prefer the clover; and by ploughing that crop in, we should destroy it: or if, as some imagine, that the disease is caused by the animal's feeding on a plant called *euphorbia maculata*, which is said to be common on pasture grounds, that plant would soon be rooted out by the natural grass; and in either case we should get rid of the evil.

If then the system which I here propose, shall effect any one of the contemplated objects, the gain to the community will be truly great; and incalculably so, if it should result in the complete realization of the whole. I am not, however, tenacious of my plan or course of cropping; I only offer it for consideration: let others pursue their views, and by giving the result of their experience, we may adopt that which is best. My great or leading object is to destroy or cripple the fly while in the stubble fields, where it is completely exposed and

in our power, and in my opinion the only point when it can be attacked with success; and therefore I call upon every friend of agriculture, who is engaged in the culture of wheat, rye or barley, to unite in it.

Yours, very respectfully,
JAMES WORTH.

JOHN LINTON, ESQ.

Chairman of the Committee on Entomology.

FOR THE AMERICAN FARMER.

MILLET,

Its fitness for Hay, and its goodness as grain disputed; great caution in making Agricultural experiments, recommended.

BALTIMORE COUNTY, 7th Sept. 1821.

Mr. Skinner—

I have seen several pieces in your paper, passing the highest encomiums on Millet as food for horses and cattle, both as hay and as grain. I am not very credulous, but am willing to try any experiment, that either promises fairly, or has good authority for its foundation.—I am afraid too many of my fellow farmers go by sudden impulses, rather than with a steady persevering and powerful push. The Doctors have a saying that is applicable to the morbid state of the body—"Atonia gignit spasmos," and I think the reverse of this too applicable to my brethren; i. e. that those violent rushes at particular new articles of husbandry, beget a subsequent state of supineness.

It is but a short time since your paper appeared almost in drills with Ruta Baga; then again, crowded with Mangel Wurtzel; and now, behold the Beta-altissima, is about being over shadowed with the countless Millet.

I have no inclination to damp the ardor of my fellow farmers. I only wish them to moderate it, and let some of the caloric of their zeal, spend itself in the slower, steadier fires of industry. A luxuriant crop on poor, or badly tilled ground, is the great desideratum of an alchemistic-farmer. There can be no objections to new articles; but I assure you, Sir, we have some very fine old ones; such as corn and timothy, for instance.—Ah! say you, but these require both labour and a high cultivation, to make any thing out of them.—Well, Sir, when you can shew me any thing good, and successively so, without depending upon these indispensable—why then, I will say that you have opened a mine that will enrich the world.—Now, for my experience, it is very small; but what I give shall be a fair sample of the whole. I was told, about five years ago, that Millet was a very good article to feed chickens, and might be raised on poor ground, even where corn would not grow. And as I, like most others, happened to have some ground exactly of that description, I procured seed from Montgomery county, Md.; but according to custom, I did not follow the directions exactly: for, I sowed it in good ground; where it produced very well, and brought so many birds* that I had to

* There were some birds that drew my attention very much—the hen was of a rusty brown, like a sedge lark, and the same size; the cock was decorated with the finest shining blue, equal to some parts of the Pea-cock.

take the first opportunity to cut it down, lest they should bear it all away.—My chickens, old and young, were served with it daily, but in vain; they would not touch it; and I had to mix it with dough, to get it off; this soon tired me, and I laid it aside. The next spring, two bushels of the heads were turned out of doors in a barrel, to perish; and to my astonishment, the chickens regularly came and stole it away, till it was all gone; but as I was not pleased with that mode of disposing of any of my articles, I fell out with the seed altogether.

The stems were about four feet high, and as thick as a quill, and very hard; neither cow nor horse would eat them; nor should I have been willing to let my horse eat such stiff food. I would have been very willing to exchange the stems (load for load) for sedge or rag-weed (ambrosia). So far goes my experience on this famous Panicum Italicum. But I afterwards took the pains to enquire of a French gardener, what use was made of it in his country?—and the only answer he could give, was "*Bone for soup*"—Now is it not a little astonishing that the Europeans in the hot countries, where hay is so much wanting, have not had the sagacity to make good hay from Millet stems? Hay that would be preferable to timothy?

I should not have thought of Millet again for some time; but, being in your city, a gentleman presented me with some seeds, brought from the Mediterranean. Among these I recognised two as Millet, and as I thought they might be of a better species than those I formerly tried, I sowed a few feet of fine ground with the two kinds. One of them grew to five or six feet high with spikes 10 or 12 inches long, and stems as thick as a lady's little finger, and therefore, was more unfit for hay, than the old parcel, though I believe it was at most, a variety of the Panicum Italicum. The other kind, which had smaller seed, came up with a very hairy sheath, was as thick as the other, and four feet high; but was paniced, and the numerous spreading branches, crowded with seed, bearing branchlets—no doubt it was the Pana. Milliaccum.—This kind might have grown higher, but being near a walk, was often pressed down when small; and, as the ground has not been spaded but once since, their seed have produced a still more degenerate race, not unlike what is common in our rich weedy gardens; and from its hairy sheath and smaller seeds,† I consider it still more unlikely to become a valuable feeding article. My utmost thoughts as to the value of the Panicum Italicum, was to make pea or bean sticks of it, by sowing it very thinly among them; as I had formerly seen what is called the Crowder-peas, growing very handsomely round these stems. I have repeatedly in conversation, with you Sir, given it as my decided opinion, that to make hay, and grain too from Mil-

† The Holcus or Broom-corn family, as well as the Panics, naturally divide themselves into large and small, or grain bearers and simple grasses with insignificant seeds. Having cultivated a few stems of the Holcus Bicolor, viz: that with upright panicle and black seed covers, and that with pendent panicles and brown covers, I cannot discern in what manner they can be cultivated or used to be equal to corn and its fodder.

let, was incompatible; if there were no other kinds than those I allude to, and to this opinion I still adhere; but if there are other species and varieties cultivated among us, I can say nothing of them: or, if inferior soil could, by reducing the size of the stem, as well as its hardness, make good, soft and nourishing hay of those which I have seen, I should be glad of it, but I know of no other article on which it has such an effect. And if I and my neighbor, Dr. Smith, are correct, then it certainly requires great caution on the part of others, either as to seed or soil, lest they be disappointed. But I shall not be surprised to find this HOBBY laid aside, after a year or two. There remains a circumstance to be noticed, connected with the finest I sowed, viz: That it produced for two years, the most unconquerable hardness on the soil, which was a stiff loam, and sowed about the 1st of May.

S. V. S.

FOR THE AMERICAN FARMER.

EDUCATION.

ought A PART OF THE PUBLIC LANDS. TO BE APPROPRIATED FOR THE PURPOSES OF EDUCATION IN EACH OF THE UNITED STATES?

Cambridge, Ohio, June 14th, 1821.

MR. SKINNER,

Sir—I have this day noticed in the American Farmer of the 8th instant, that the Legislature of Maryland, during their last session have, as it would appear to me, with some want of candour, attempted to shew that the people of the state of Ohio, are educating their children at the expense of the state of Maryland. I for one, could I believe the doctrine, would be ready and willing to refund to the Union, all the benefits we have received, or are likely to receive, from the appropriation of public lands within this state, for the promotion of learning.

But, Sir, I believe the Legislature of Maryland have taken a very partial view of this business. I contend that the state of Ohio have not only repaid to the General Government, every cent which they have laid out for those lands; but that she has paid it with a handsome profit. And, certainly that is not given away, which is well paid for. Upon examining the calculation of the Maryland Legislature, it appears that somewhere about the 30th part of the lands in the state of Ohio, have been appropriated for the use of schools, and other seminaries of learning; and now, let us see who have paid for those lands.

A township of land contains 36,000 acres; and, I suppose, did not cost the UNION more than 10 cents per acre; but we will say it costs them 20 cents per acre, at which price it amounts to \$7200. The 30th part of a township said to have been given away, is 1200 acres. Deduct this from the township, and 34,800 acres remain which at \$1 66 cents per acre (nearly the price we have paid for our lands when they were paid for in cash) amount to \$58,368, making a clear profit to the Union of \$51,168, on a single township of land. Now although the Legislature of Maryland has said that the 30th part of the

land in this state has been given to us, I still trust that the enlightened citizens of that state, will upon a candid re-consideration of the subject, say that we have fully paid for them; particularly when they recollect that it was a condition of the sale, and a prominent item in the contract, that if we would pay so much for the balance, we were to receive the 30th part for the use of schools. Now where is the difference between saying that we should have a township of land for \$32,363 52 cents, or that if we would pay this sum for 29-30ths of a township that we should have the balance also, for the use of schools? Will any man say, that a merchant who sells a coat pattern, with a condition, that he will give silk to make it, does not sell his silk also, as well as the cloth? Those who are accustomed to sell, either land or cloth, know that he does.

All the appropriations of lands in the state of Ohio, and the 5 per cent. for making roads, were (as it is called) *given by Congress*, with precisely the same view as a merchant treats his customers to a glass of wine, or a tavern keeper a traveller in the morning; that is to say as an inducement for people to purchase their lands; besides, it increased the value of the balance, and when a man purchased a quarter section of land, he knew he bought and paid for a share in the school Lot. It was therefore no gift.

Indeed there needs but slight examination of this matter, to convince any man, that we have received nothing but what we have paid for; and that, too, without the consolation of believing that the price would be expended among us, in proportion to what we pay into the National coffers: But this was not to be expected whilst, as the Legislature of Maryland, says 2 3ds of the Union are against us—However, the day is probably not far distant when the tables will be turned. * * * * *

And whilst I have my pen in hand, I will cut out a little work for the next legislature of Maryland, as I presume business is as dull with them as it is with us in Ohio. It appears by their calculation, that about the 30th of the lands in Ohio have been appropriated to state purposes, BY THE STATE PAYING VERY WELL FOR THEM; but what has become of the 29ths? I presume it will not be denied that they have gone into the treasury of the union. The question then that I would propose for consideration at Annapolis, is simply this—whether the state of Maryland would not, by paying into the national treasury 29ths of the proceeds of the lands sold by that state, and appropriated to her own use, appear something more like wishing to do as she would be done by, than when she keeps the whole of that, and modestly asks for 298,055 acres more?

There are many other exceptions, that might be taken, to the pretensions of the state of Maryland; but, knowing as I do, that there are many men in Ohio, who have more time and talents to appropriate to the subject than I

(†) Here some remarks are indulged which are too sectional for this journal. Edit. A. Farmer.

have; I shall stop here, after commending it to their notice. Your's, &c.

AN OHIOAN.

FOR THE AMERICAN FARMER.

The Agricultural Poor.

North Carolina, 7th June, 1821.

DEAR SIR—I will avail myself of this opportunity of addressing you upon another subject—and of suggesting to you a plan, which if put into operation, could, in my opinion, add not only to the credit of our Agricultural Societies, but would certainly tend greatly to the relief of numbers of unfortunate beings that, in consequence of the pressure of the times, are unable to earn a support. The tiller of the ground, conspicuously depends upon the bounty of his Creator. The supplies he receives, appear to be more directly the gift of that God, "who sends the early and the latter rain"—he witnesses the display of Almighty wisdom and beneficence in the product of his fields—he deposits the grain in the earth, to vegetate—it gradually arrives at maturity, and is restored to him twenty, thirty, fifty fold. Surely then, he is emphatically called upon to apply a portion of what is thus bestowed upon him, to the use of those of his fellow creatures, who do not possess the blessings which he enjoys.—We find other classes of the community have their charitable societies, and why should not the Farmers have theirs? I would propose, that in every agricultural society, a certain portion of the funds should be appropriated to the use of the poor and destitute in the county, where the society is established—that each individual belonging to a society, should give a small portion of the product of his farm or plantation—the proceeds of which, to be deposited in the hands of the Treasurer of the Society, to constitute a fund for charitable purposes. In this way vast numbers may be relieved, and the inconsiderable expense scarcely be felt by those who give.

I have hastily thrown together a few ideas on this topic, in the hope that some one may take up the subject, and do it justice.

Very respectfully, &c.

G. W. B. B.

WOOL, &c.

The demand for this article must continue to increase. The domestic supply is not equal to the present wants of the manufacturers; and more factories will undoubtedly be established in the country every year—as, under present encouragements, the business is profitable, although prosecuted with too little capital, and by those who have yet much to learn.

Farmers will therefore, and certainly, be well rewarded for the care, which they may hereafter pay to flocks of Sheep. To all those who live remote from the Atlantic cities, this description of stock will be particularly profitable. Much of the produce of their lands will not, now, bear the expense of transporting it to the sea board. But Wool, besides finding a

market in most of these states, may also be sent to Europe, with advantage to the grower and shipper.

And, as an important step towards the general introduction of the better kinds of Sheep in every part of this vast country, having reference both to the carcase and fleece of the animal, I beg leave to suggest, that it might be found very useful to solicit annual authenticated reports from the several states of this union, setting forth the average weight of wool per head, of different breeds together with the average weight and disposition to fat in the shorn animals. This might be readily accomplished, through the instrumentality of county and state Agricultural Societies—and it would soon cause inferior flocks to give place to better animals.

My own flock, of 51 Sheep, averaged, at the last annual shear, nearly 8 lbs. each, of wool in the dirt; but I do not mention this even as a part of an individual report, for I called no one to witness the operation, nor did I think of weighing my sheep at that time: next year however, I will do both in form, and send a sample of the wool, with the report, for publication, in the hope, that many persons will do so likewise; and thus pave the way to an important national object—the introduction of better sheep into every part of this country.

RICHARD K. MEADE.

WHITE POST-OFFICE,
Frederick County, Virginia.

Interesting Extracts—From the Editor's correspondence.

FLOWING OF THE SAP.

CHAMBERSBURG, 19th Sept. 1821.

"You may inform your correspondent S. S. Griffin, M. D. that his experiment, 'whether we may not entirely dispense with the use of hand hoes in the cultivation of Indian Corn, from the planting of the grain to the harvesting of the crop,' may be made with great confidence of success. Among our best farmers I have not seen a hoe in a corn-field after planting, for seven years and more—all is done with the plough.

Who among your correspondents has ever experimented upon the theory of the sap of trees? Does it ascend and descend—or recede into the heart, and revert to the surface with the heat? A walnut log, put up in building a barn, last spring put out a shoot which continued vigorous until August; the log was 15 feet up.

A locust post, hewn so as to take all the bark off, except in a small cavity about 2 inches diameter, put out a shoot from that cavity 15 inches long."

DRESSING OF FLAX.

In the essay on "Flax Husbandry," by S. W. Pomeroy, vol. iii. page 124, of the "American Farmer," it is stated, that a respectable gentleman from Dutchess County, New-York, informed him, "that mills or machines, impelled by water, have been erected there, that break and completely dress the flax for a toll of one tenth."

It would be most desirable to a number of farmers in this part of the country to know, if this information made to Mr. Pomeroy is correct, and through the medium of your paper, to become acquainted with the nature of the mills or machines, their cost, size, construction, and the place where one, in successful operation, has been erected—and the name of the maker to whom application may be made. The mills are said to have been of Scottish invention. Any information you can give us, will be gratifying to

YOUR SUBSCRIBER.

* Messrs. Harrison & Torrey, very spirited introducers of foreign machinery from abroad, and manufacturers of newly invented implements, recently made a machine for an extensive grower of flax, near New-York, to dress it without rotting or retting—but we understood, that they sold it at a considerable loss, and it was very doubtful whether it would answer in any satisfactory degree. Ed. Am. Far.

SEED CORN.

Liberty, Bedford Co. Va., 13th Sept. 1821.

MR. SKINNER—Believing that in the cultivation of Indian corn, as in most other things the crop might be improved and increased by selecting the most forward and prolific for seed; I commenced in the fall of 1815, and selected my seed corn from those stalks only which had two good ears on them; and these of the most forward corn. I cut the stalks with the ears still hanging on them, and without husking or shucking them, and stored them away in November, in some garret or high dry place, secure from rats, &c. until planting season in the spring. When I shuck it and shell off a few grains at the small end only, of each ear—after I had selected my seed corn in this way, two years in succession, I invited an elderly and particular friend, who lives near me, to walk in my field one evening, in the third year, and see my Indian corn. He presently remarked, that he never saw so many stalks bearing two ears each, in his life; and inquired the cause—I informed him—and we conversed some time on the subject of its reasonableness, &c.—This gentleman returned home, and that fall selected his seed in the same way, and the next fall informed me thereof—and on my inquiries for the result, he informed me that on selecting his seed, the preceding fall, he had to go over nearly his whole crop, before he could find a sufficient number of stalks with two ears each; and he the succeeding fall, found no difficulty in selecting a sufficiency on an acre or two—and that he had no more doubt of the great benefit resulting to farmers, from this easy task of selecting the seed corn in this way, than he had that rich land was more productive, than poor. I have regularly continued this mode of selecting seed corn, since 1815, and have heard many persons, who have viewed my corn crops, say they never saw so many stalks, bearing each two ears or more, in any other crop as in mine. Let it not be said my land is superior to other people's, or is rich low ground.

I have not ten acres of low ground in my tract, there being only some small branches running through the same; and the land I cultivate, is not fertile; but from clover and plas-

ter, and the regular five shift system, it is improving rapidly; although some tracts of it are poor and broken, and have been from twenty to forty years in cultivation. And, Mr. Skinner, I now venture an opinion, that there is no crop in this large and fertile county, of the same size with mine, affording more stalks of corn, with two good ears on each, than I can shew on mine, bearing three ears each—from which latter only, I shall select my seed this fall.

Most respectfully, &c. your obt. servant.

WM. COOK.

A Remedy for hoven or swollen Cattle.

A writer in the "Columbian" gives directions for stabbing cattle that have been hoven or swollen by eating clover or other green and succulent food. It has been said that any alkaline solution will answer every purpose proposed by that dangerous process. The following is easily procured, and we are told has been found efficacious.

Make what is called by some a whitlye, by putting about a pint of good house ashes into about two quarts of water; stir it a little, let it settle and turn off the clear water. This when poured down the throat of the creature diseased, will speedily effect a cure. One junk quart bottle full is commonly found sufficient for an ox or a cow.—In some instances a second is necessary.—A less quantity will answer for a sheep.—Small lumps of tar mixed with Indian meal, forced down the creature's throat, will likewise effect a cure.

THE FARMER.

BALTIMORE, FRIDAY, SEPT. 25, 1821.

The Editor will be much indebted to any subscriber or friend, for the loan of the *London Farmer's Journal* of the 9th of July last—that number contains the 1st day's proceedings of the Holkham sheep shearing—the previous and subsequent numbers have been regularly received in exchange for this paper. The number requested, if loaned to the Editor, shall be safely returned.

PRICES CURRENT.

Flour from the wagons, \$6—Whiskey from do. 27 cts. exclusive of bbl.—Wheat, white, \$1 25 to 1 27—Red, do. \$1 18 a \$1 20—Corn, white, 52 a 53—Yellow, do. 55 cents—Oats, 28 a 30 cts—Rye, 30 cts.—Hay, pr ton \$12 a \$14—Straw do. \$8—Live Cattle, \$5 a 6 50—Codfish, per quintal, wholesale, \$3, retail 3 50 a \$4—N. E. Beans pr bushel \$1 12½—do. Peas, 75 cts—Plaster in stone \$6 pr ton—do, ground, \$1 37½ pr barrel, 33 cts. per bushel, \$8 per ton—American White Lead, \$12 50—Ground do. 13 a 14—Linseed Oil, 75 cents—Feathers, 40 a 45 cents—Shad, new, \$6—Herrings, \$2 a \$2 25, declining—Fine Salt, 35 cents per bushel—Ground Alum do. 55 a 60—St Ubes, 60—Cadiz, 50 a 55—Turk's Island, 75—Beef, prime ps. 8 a 10 cts—Hams, 10 a 12 cts—Middlings, 15 cts—Butter, 25 a 37½ cents—Eggs, 12½ cts. per dozen—Cheese, 8 a 10 cts per pound.

NORTH-CAROLINA STAPLES.—Tar \$1 75, cargo price, plenty—Turpentine, soft, \$1 75 a 1 87 do—Hard, \$1 25 a 1 37—Spirits Turpentine, 30 cents—Varnish, nominally, 25 cents, no sales—Rosin, \$1 25, nominally, no demand—Pitch scarce, \$2 25.

MARYLAND TOBACCO—actual sales—2 hhds. first, from Calvert county, \$11 75.—4 do. do. \$8 first, \$4 50 seconds. Charles county Tobacco, sales from \$6 to \$12 for first—Seconds, \$2 a \$4 50.—Wagon Tobacco, fine yellow none—Good red, from \$11 to 12.

PUBLISHED BY JOHN S. SKINNER.